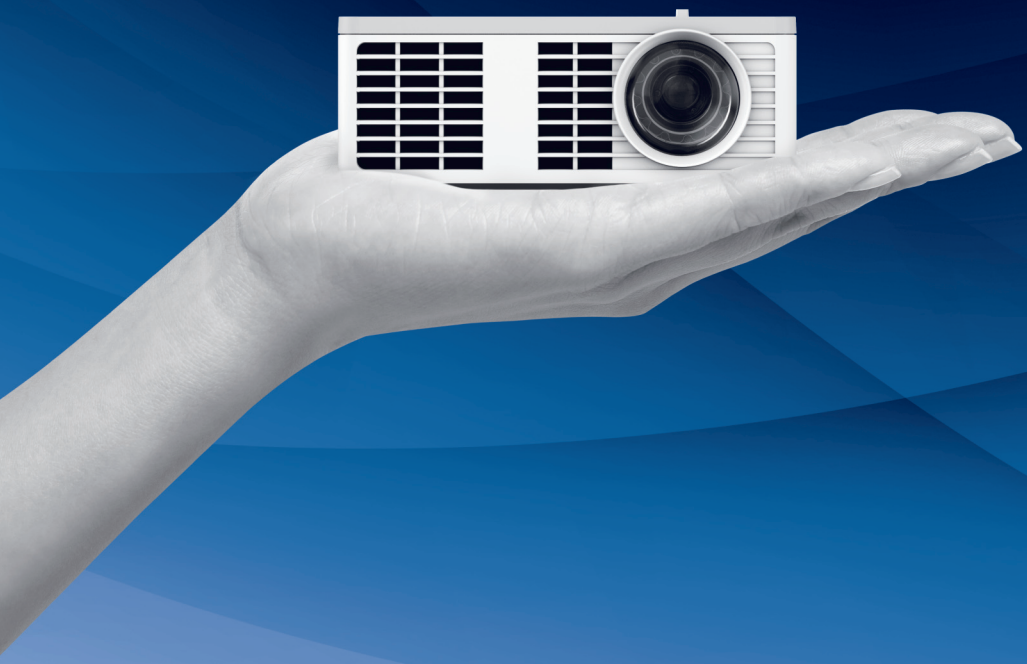
MOBILE

projector



User's Manual

English

Contents

Safety Instructions 4

Important Notice 4
Technical Support Contact 4
Intended Use Statement 4
Safety Information 4
Safety Labels 6
Limited Warranty 7
Trademarks 9
Video and Audio Decoder Notices 9
Regulatory Notices 10
CE Statement 11
WEEE Statement 11
RoHS Statement 11

Introduction 12

Package Contents 12
Optional Contents 12
About Your Projector 13
Main Unit 13
Input / Output Connections 14
Control Panel 15
Remote Control (Optional) 16
Installing the Remote Control Battery (Optional) 17
Operating Range with Remote Control (Optional) 17

Installation 18

Connecting to a Computer 18
Connecting to a DVD Player 19
Connecting to Multi-Media 20
Turning On/Off the Projector 21
Turning Your Projector On 21
Turning Your Projector Off 21
Adjusting the Projected Image 22
Raising the Projector Height 22
Lowering the Projector Height 22
Adjusting the Projector Focus 22
Adjusting Projection Image Size 23

User Controls 25

Using the On-Screen Display 25
Main Menu 25

© 3M 2012. All Rights Reserved.

Language 25
Source 26
Video Mode 27
Audio 27
Auto Adjust 28
OSD Reset 28
Advanced 28
SN 28
FW Version 28
Advanced Menu 29
Display (In PC Mode) 29
Display (In Video Mode) 30
Image (In PC Mode) 31
Image (In Video Mode) 31
Power 33
Multi-Media Introduction 36
Photo Format 36
Video Format 36
Audio Format 36
How to set-up File Type for Multi-Media with USB 37
How to set-up File Type for Multi-Media with MicroSD 38
How to set-up File Type for Multi-Media with Internal Memory 39
Multi-Media Main Menu 40
Multi-Media SETUP for USB, MicroSD, and Internal Memory 40
Photo Setup 41
Video Setup 42
Music Setup 43
Firmware Update 44

Appendices 45

Troubleshooting 45
Guiding Signals 47
Compatibility Modes (Analog/Digital) 48
Specifications 49

© 3M 2012. All Rights Reserved.

Safety Instructions

Important Notice

All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product which are not contained in 3M's current publications, or any contrary statements contained on your purchase order shall have no force or effect unless expressly set forth in a written agreement signed by an authorized officer of 3M.

Technical Support Contact

For technical support, call 1-866-631-1656 or email meetings@mmm.com

Intended Use Statement

The 3M Mobile Projector MP410 is designed to operate with the 3M power adapter and 3M I/O cables in normal office or home environments.

- Operation temperature:
  - For 0 - 2500 ft, 5 - 35 °C
  - For 2500 - 5000 ft, 5 - 30 °C
  - For 5000 - 10000 ft, 5 - 25 °C
- Maximum Humidity:
  - Operating: 5°C ~ 35°C, 80%RH (Max.), Non-condensing
  - Storage: -20°C ~ 60°C, 80%RH (Max.), Non-condensing

The ambient operating environment should be free of airborne smoke, grease, oil and other contaminants that can affect the operation or performance of the projector.

Use of this product in adverse conditions will void the product warranty.

Safety Information

Please read, understand, and follow all safety information contained in these instructions prior to the use of this projector. Retain these instructions for future reference.

Explanation of Signal Word Consequences	
⚠ **Warning:**	Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury and/or property damage.
⚠ **Caution:**	Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury and/or property damage.
⚠ **Warning:**	Hazardous voltage

© 3M 2012. All Rights Reserved.

⚠ Warning

To reduce the risk associated with hazardous voltage:

- Do not modify this product in any way. Use only 3M approved replacement components.
- Do not attempt to service this projector.
- There are no user-serviceable parts. Service to be performed only by a 3M authorized service provider using 3M approved system components.
- Do not use the wall power supply in a wet environment.
- Do not use with a damaged wall power supply. Replace damaged part prior to use.

To reduce the risk associated with fire and explosion:

- Do not immerse the projector in any liquid or allow either to get wet.
- Use only 3M approved power supply.

To reduce the risks associated with choking:

- Keep all small parts like the remote control battery away from young children and pets.

To reduce the risk associated with hazardous voltage, impact, tripping, and intense visible light:

- Do not use this projector around unsupervised children.

⚠ Caution

To reduce the risks associated with hearing loss:

- Be sure to read earphone manufacturer's instructions with respect to volume level.
- User is responsible to set a safe volume level.

To reduce the risk associated with explosion, and/or chemicals from a leaking batteries:

- Use only with battery type CR2025.
- Orient the battery's plus (+) and minus (-) terminals of the batteries according to the markings found on the remote control.
- Do not leave the battery in the remote for an extended period of time.
- Do not heat or expose the battery to fire.
- Do not disassemble, short, or recharge battery
- Do not carry batteries loose in your pocket or purse.
- Avoid eye and skin contact in the event that battery leaks.
- Do not recharge the battery near a heat source or in extremely hot conditions.

© 3M 2012. All Rights Reserved.

To reduce the risk associated with environmental contamination:

- Dispose of all system components in accordance with applicable government regulations.

To reduce the risks associated with LED bright light:

- Do not stare directly into the projector lens.

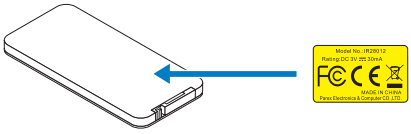
To reduce the risks associated with tripping and falling:

- Position the charging cord and data cables so that they are not a tripping hazard.

IMPORTANT NOTE: Do not expose the projector to direct sunlight in a closed space such as a vehicle.

SAVE THESE INSTRUCTIONS

Safety Labels



Remote Control (Optional)
Model No. IR28012

Spec Label

© 3M 2012. All Rights Reserved.

Limited Warranty

This warranty applies to the continental US only. The warranty terms, conditions, remedy and limitation may vary in other countries. Contact your local 3M Company for warranty information.

- The 3M™ Mobile Projector MP410 (the "3M product") is warranted to be free from defects in material or manufacture for a period of 2 year from the date of purchase.
- All other accessories included with the 3M product are warranted to be free from defects in material or manufacture for a period of 1 year from the date of purchase.
- Optional product accessories that are not sold as part of the 3M product are subject to individual warranties.

THE WARRANTIES STATED ABOVE ARE EXCLUSIVE AND ARE MADE IN PLACE OF ANY AND ALL WARRANTIES, EXPRESS OR IMPLIED WARRANTIES OR CONDITIONS, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ANY INDUSTRY PRACTICE OR CUSTOM OR TRADE USAGE.

In the event the 3M product fails to conform to the above stated warranties within the applicable warranty period, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or to refund the purchase price of the 3M product. All replaced parts or products become property of 3M. If the product is repaired, 3M will repair the defective part(s) with a new or used part(s). If the 3M product is replaced, 3M will replace the 3M product with the same or equivalent model and with a new or refurbished 3M product. In the case of an approved warranty claim, the replacement 3M product will carry only the remaining term of the original 3M product's warranty period as stated above. For warranty service, you must provide proof of the date of the original purchase else the manufacturing code date will be used to establish the start date of the warranty. The following are exclusions to the above listed warranty:

a. This warranty does not cover 3M product that is modified or damaged through improper storage, misuse, abuse, accident, vandalism, improper installation, neglect, improper shipping, damage caused by acts of war, disasters such as fire, flood, and lightning, improper electrical current, software problems, interaction with non-3M products, or service other than by an 3M Authorized Service Provider, neglect or mishandling by any person. Normal wear and tear is not covered under warranty.

b. 3M product is designed to operate in the typical indoor environment. This warranty does not cover 3M product used outside of the following circumstances:
   - Operation temperature:
     - For 0 - 2500 ft, 5 - 35 °C
     - For 2500 - 5000 ft, 5 - 30 °C
     - For 5000 - 10000 ft, 5 - 25 °C
   - Maximum Humidity:
     - Operating: 5°C ~ 35°C, 80%RH (Max.), Non-condensing
     - Storage: -20°C ~ 60°C, 80%RH (Max.), Non-condensing

c. The air intake and exhaust vent must be clear of obstructions. Inadequate air ventilation will cause the 3M product to malfunction or will cause damage to the 3M product which will void the warranty.

d. This warranty does not cover any additional costs including, but not limited to, those associated with removal, cleaning or installation of the 3M product, adjustments, (mechanical or electronic) made to the 3M product.

© 3M 2012. All Rights Reserved.

e. This warranty covers only normal use of the product. 24-hour-per-day or other excessive continual use causes strain and is not considered normal use.

f. This warranty does not cover consumables (e.g., batteries).

g. This warranty is not transferable.

h. 3M is not responsible for warranty service should the 3M label or logo or the rating label or serial number be removed unless otherwise stated in writing for the purposes of private labeling for partnership requirements.

i. This warranty does not cover postage, insurance, or shipping costs incurred in presenting your 3M product for warranty service. Said costs are the customer's responsibility. If a claimed defect cannot be identified or reproduced in service, the customer may be held responsible for cost incurred. Should your warranty upgrade include a "change out" service and the claimed defect cannot be identified or reproduced by the technician, the customer will be responsible for call out costs.

FAILURE TO FOLLOW THE INSTRUCTIONS CONTAINED IN THE APPROPRIATE 3M PRODUCT MANUAL OR TO USE THE 3M PRODUCT IN ACCORDANCE WITH 3M'S INTENDED USE STATEMENT, WILL VOID ALL WARRANTIES AND LIMITED REMEDIES.

EXCEPT AS SPECIFICALLY STATED IN THE APPLICABLE 3M PRODUCT MANUAL, 3M SHALL NOT BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, REVENUE OR BUSINESS) RESULTING FROM, OR IN ANY WAY RELATED TO PERFORMANCE, USE OR INABILITY TO USE ANY OF THE 3M PRODUCT. This limitation applies regardless of the legal theory upon which damages are sought.

For warranty support, please call or write your local 3M office or a 3M Authorized Service Provider to obtain an RMA # (Return Material Authorization number) before returning the product. If you are inside the Continental United States of America, please contact 3M Customer Service at 1-866-631-1656 or email meetings@mmm.com.

What 3M Will Do To Correct Problems:

- If your 3M product requires service, 3M will ask you to bring or send the 3M product, securely packaged in its original container or equivalent, along with proof of the date of original purchase, to your 3M Service Dealer or 3M Service Center.
- 3M will, at its option, repair or replace the defective unit without charge for parts or labor. Return of the 3M product will be at 3M's expense.
- When warranty service involves the exchange of the 3M product or of a part, the item replaced becomes 3M property.
- The exchanged 3M product or part may be new or previously refurbished to the 3M standard of quality, and at 3M's option, the replacement may be another model of like kind and quality.
- 3M's liability for replacement of the warranted 3M product or part will not exceed the original retail selling price of the 3M product. Exchange or replacement products or parts assume the remaining warranty period of the product covered by this limited warranty.

© 3M 2012. All Rights Reserved.

Trademarks

3M and the 3M logo are trademarks of 3M Company. Adobe and the Adobe logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries. Microsoft, PowerPoint, and Excel are registered trademarks of Microsoft Corporation. microSD and microSDHC are trademarks of the SD Association.

All other trademarks or registered trademarks are property of their respective companies.

Video and Audio Decoder Notices

MPEG-4 NOTICE

THIS PRODUCT IS LICENSED UNDER THE MPEG-4 VISUAL PATENT PORTFOLIO LICENSE FOR THE PERSONAL AND NON-COMMERCIAL USE OF A CONSUMER FOR (i) ENCODING VIDEO IN COMPLIANCE WITH THE MPEG-4 VISUAL STANDARD ("MPEG-4 VIDEO") AND/OR (ii) DECODING MPEG-4 VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL AND NONCOMMERCIAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED BY MPEG LA TO PROVIDE MPEG-4 VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION INCLUDING THAT RELATING TO PROMOTIONAL, INTERNAL AND COMMERCIAL USES AND LICENSING MAY BE OBTAINED FROM MPEG LA, LLC. SEE HTTP://WWW.MPEGLA.COM.

AVC VIDEO NOTICE

THIS PRODUCT IS LICENSED UNDER THE AVC PATENT PORTFOLIO LICENSE FOR THE PERSONAL AND NONCOMMERCIAL USE OF A CONSUMER TO (i) ENCODE VIDEO IN COMPLIANCE WITH THE AVC STANDARD (“AVC VIDEO”) AND/OR (ii) DECODE AVC VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL AND NON-COMMERCIAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED TO PROVIDE AVC VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION MAY BE OBTAINED FROM MPEG LA, L.L.C. SEE HTTP://WWW.MPEGLA.COM.

MPEG LAYER-3 NOTICE

Supply of this product does not convey a license nor imply any right to distribute MPEG Layer-3 compliant content created with this product in revenue-generating broadcast systems (terrestrial, satellite, cable and/or other distribution channels),streaming applications (via Internet, intranets and/or other networks), other content distribution systems (pay-audio or audio-ondemand applications and the like) or on physical media (compact discs, digital versatile discs, semiconductor chips, hard drives, memory cards and the like). An independent license for such use is required.

For details, please visit http://mp3licensing.com.

© 3M 2012. All Rights Reserved.

Regulatory Notices

FCC STATEMENT - CLASS B

This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual may cause interference to radio communications. It has been tested and found to comply with the limits for a Class "B" computing device pursuant to Subpart B of Part 15 of the FCC Rules, which are designed to provide reasonable protection against such interference when operated in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTICE: This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Industry Canada regulatory information

Operation is subject to the following two conditions:

(1) this device may not cause interference, and

(2) this device must accept any interference, including interference that may cause undesired operation of the device.

The user is cautioned that this device should be used only as specified within this manual to meet RF exposure requirements. Use of this device in a manner inconsistent with this manual could lead to excessive RF exposure conditions.

This Class [B] digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe [B] est conforme à la norme NMB-003 du Canada.

INSTRUCTIONS TO USERS: This equipment complies with the requirements of FCC equipment provided that the following conditions are met. If the cables include a EMI ferrite core, attach the ferrite core end of the cable to the projector. Use the cables which are included with the projector or specified.

Note: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Complies with IDA Standards DA103121

© 3M 2012. All Rights Reserved.

CE Statement

ElectroMagnectic Compatibility Statement: Meets 2004/108/EC Directive

Low Voltage Directive: Meets 2006-95-EC Directive.

WEEE Statement

The following information is only for EU-members States:

The mark shown to the right is in compliance with Waste Electrical and Electronic Equipment Directive 2002/96/EC (WEEE). The mark indicates the requirement NOT to dispose the equipment as unsorted municipal waste, but use the return and collection systems according to local law.

RoHS Statement

3M Mobile Interactive Solutions can provide RoHS certification for products meeting the RoHS directive.[1]

European (EU) Restriction of Hazardous Substances (RoHS) Directive, 2002/95/EC,

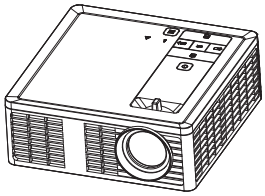
[1] RoHS compliant means that the product or part does not contain any of the substances in excess of the following maximum concentration values in any homogeneous material, unless the substance is in an application that is exempt under RoHS, as amended:(a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers; or (b) 0.01% (by weight) for cadmium. This information represents 3M's knowledge and belief, which may be based on information provided by third party suppliers to 3M.

© 3M 2012. All Rights Reserved.

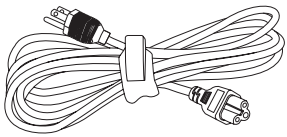
Introduction

Package Contents

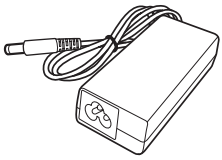
Your projector comes with all the items shown below. Ensure that you have all the items, and contact your local reseller or service center if anything is missing.



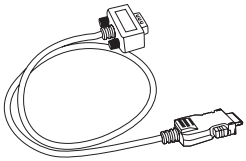
Projector



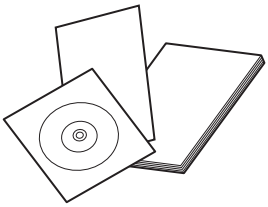
Power cable



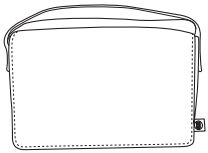
AC adapter



Universal 24-pin to VGA cable



CD operator's guide and documentation



Carrying case

Optional Contents

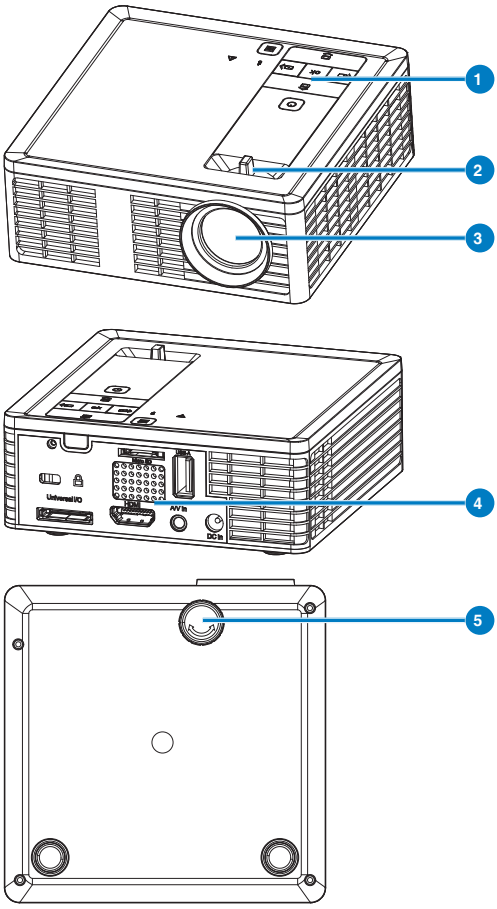
Remote control

NOTE: The remote control is shipped without battery.

© 3M 2012. All Rights Reserved.

About Your Projector

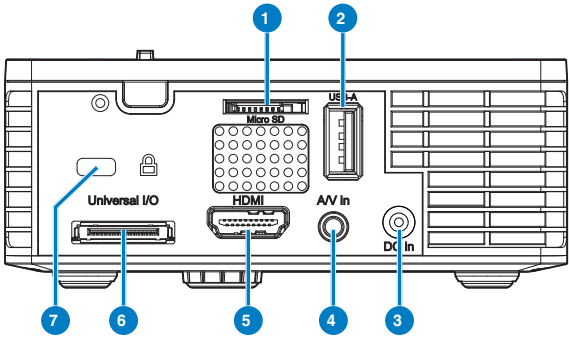
Main Unit



#	Description
1	Control panel
2	Focus ring
3	Lens
4	Input / Output connections
5	Tilt adjusting wheel

© 3M 2012. All Rights Reserved.

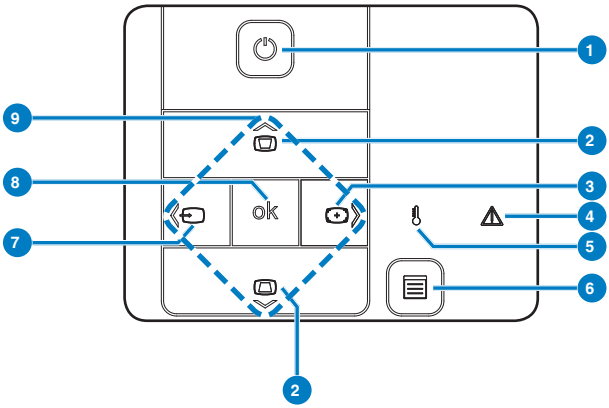
Input / Output Connections



#	Description
1	MicroSD card slot
2	USB Type A connector
3	DC input connector
4	Audio/Video input connector
5	HDMI connector
6	Universal I/O connector
7	Security cable slot

© 3M 2012. All Rights Reserved.

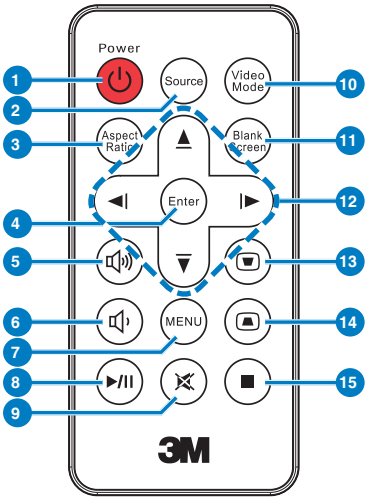
Control Panel



#	Name	Description
1	Power	Turns the projector on or off.
2	Keystone adjustment	Press to adjust image distortion caused by tilting the projector (+/-40 degrees).
3	Auto adjust	Press to synchronize the projector to the input source. *NOTE: Auto Adjust does not operate if the on-screen display (OSD) is displayed.*
4	Error LED	Error LED is blinking amber, one of the fans has failed. The projector will automatically shut down.
5	Temp LED	If the TEMP amber indicator is on or blinking, one of the following problems could be occurring: • Internal temperature of the projector is too high.
6	Menu	Press to activate the OSD. Use the directional keys and the **Menu** button to navigate through the OSD.
7	Source	Press to enter **Source** menu and select an input source.
8	Enter	Press to confirm the selection item.
9	Four Directional Select Keys	Press to navigate through the On-Screen Display (OSD) Menu items.

© 3M 2012. All Rights Reserved.

Remote Control (Optional)

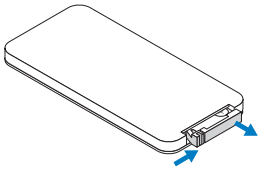


#	Name	Description
1	Power	Turns the projector on or off.
2	Source	Press to enter **Source** menu and select an input source.
3	Aspect Ratio	Press to change aspect ratio of a displayed image.
4	Enter	Press to confirm the selection.
5	Volume up	Press to increase the volume.
6	Volume down	Press to decrease the volume.
7	Menu	Press to activate the OSD.
8	Play/Pause	Press to play/pause media file.
9	Mute	Press to mute or un-mute the projector speaker.
10	Video mode	Press the **Video Mode** button to toggle between **Bright mode**, **Movie mode**, **PC mode**, **User mode**, or **Presentation mode**.
11	Blank screen	Press to hide/unhide the image.
12	Up/Down/Left/Right	Press to navigate through the On-Screen Display (OSD) Menu items.
13 14	Keystone adjustment	Press to adjust image distortion caused by tilting the projector (+/-40 degrees).
15	Stop	Press to stop playing media file.

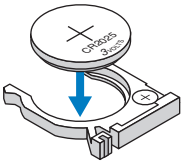
© 3M 2012. All Rights Reserved.

Installing the Remote Control Battery (Optional)

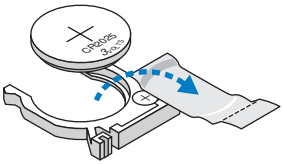
1. Remove the battery holder by holding down the side release firmly and pulling out the battery holder.



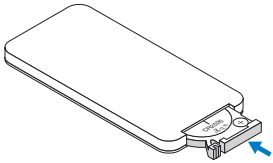
2. Insert a CR2025 coin cell battery and align the polarity correctly according to the marking in the battery holder.



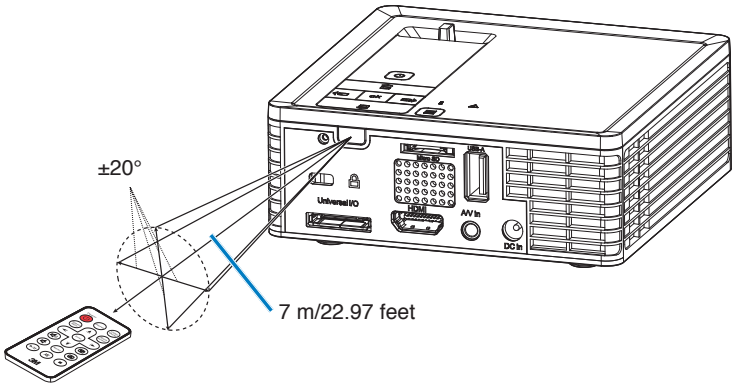
NOTE: When you use the remote control for the first time, there is a plastic sheet between the battery and its contact. Remove the sheet before use.



3. Replace the battery holder.



Operating Range with Remote Control (Optional)

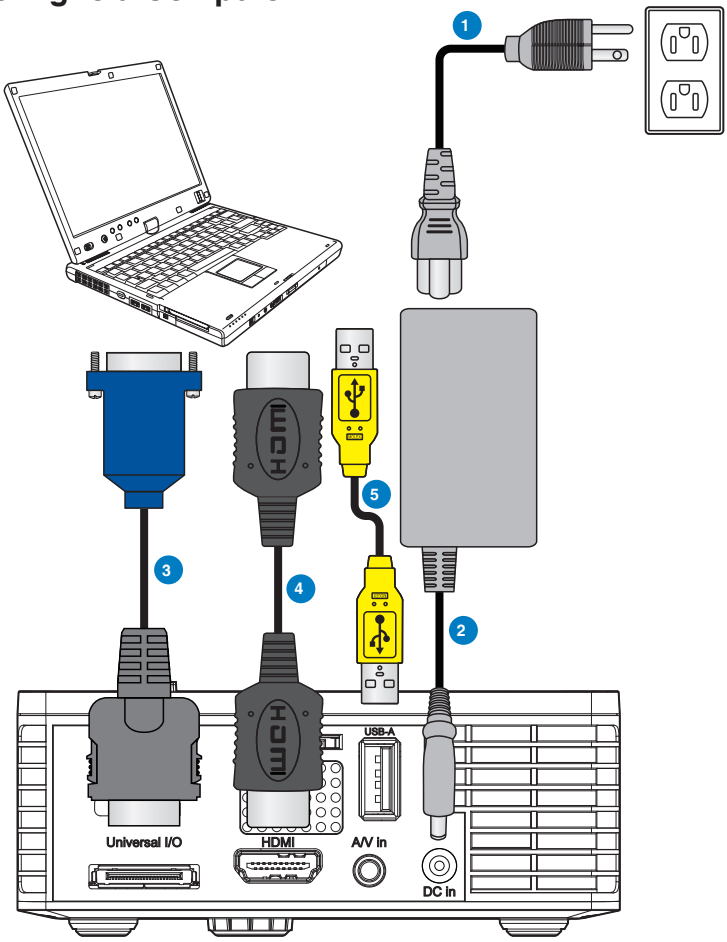


NOTE: Actual operating range may slightly differ from the diagram. Additionally, a weak battery reduces or eliminates the operating range of the remote control.

© 3M 2012. All Rights Reserved.

Installation

Connecting to a Computer

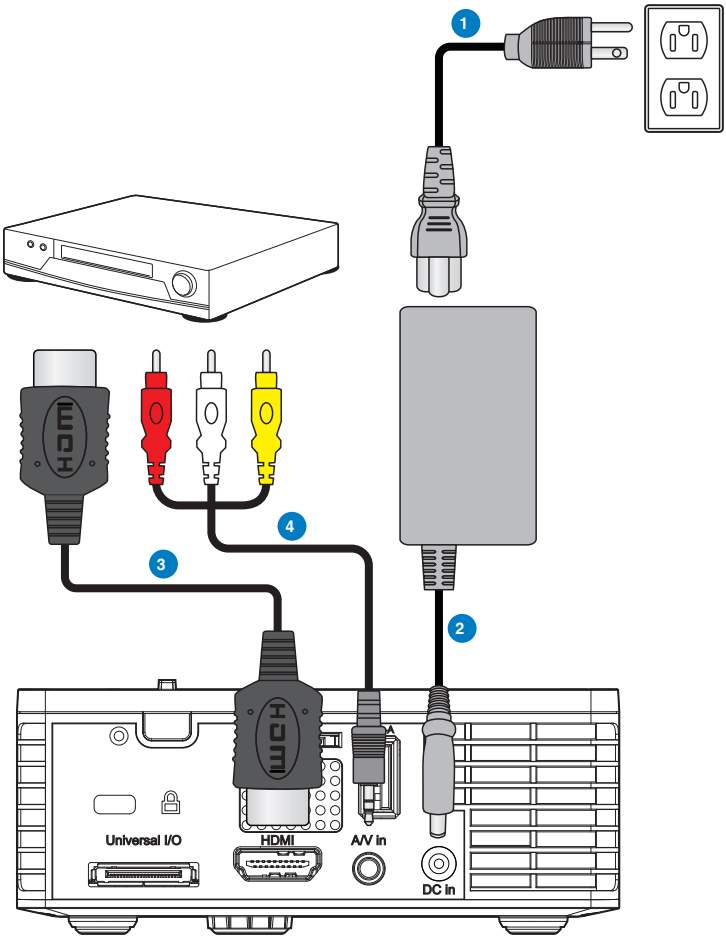


#	Description
1	Power cord
2	AC adapter
3	Universal 24-pin to VGA cable
4	HDMI cable *
5	USB-A to USB-A cable *

** NOTE: The accessory is not shipped with your projector.*

© 3M 2012. All Rights Reserved.

Connecting to a DVD Player

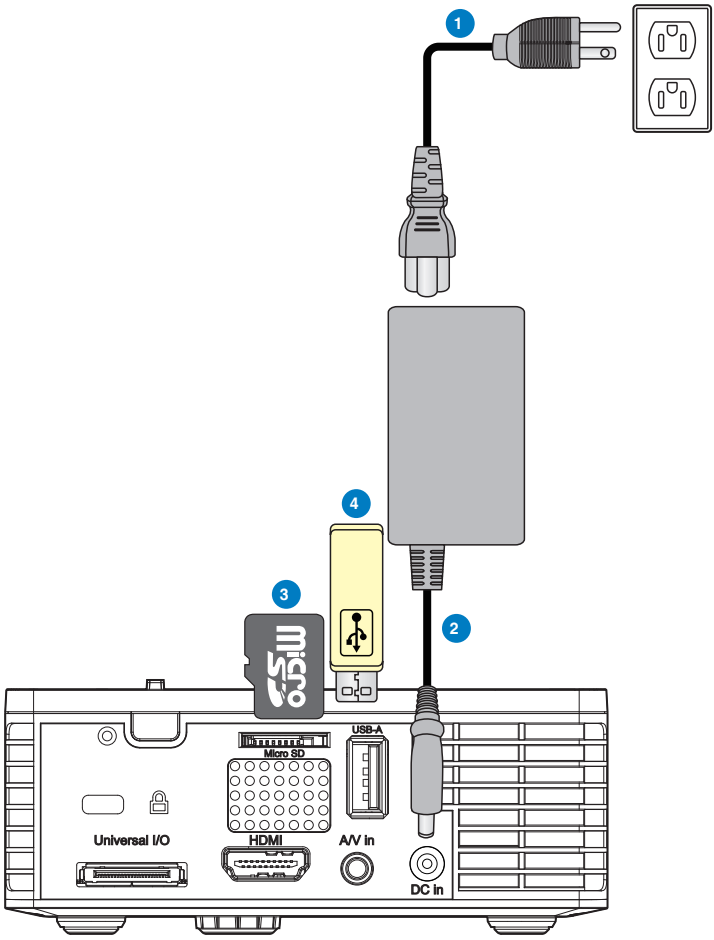


#	Description
1	Power cord
2	AC adapter
3	HDMI cable *
4	3.5 mm jack A/V to RCA cable *

** NOTE: The accessory is not shipped with your projector.*

© 3M 2012. All Rights Reserved.

Connecting to Multi-Media



#	Description
1	Power cord
2	AC adapter
3	MicroSD card *
4	USB flash disk *

** NOTE: The accessory is not shipped with your projector.*

© 3M 2012. All Rights Reserved.

Turning On/Off the Projector

Turning Your Projector On

NOTE: Turn on the projector before you turn on the source (computer, DVD player, etc.). The Power button light blinks blue until pressed.

1. Connect the power cord with AC adapter and appropriate signal cables to the projector.
2. Press the **Power** button.
3. Turn on your source (computer, DVD player, etc).
4. Connect your source to the projector using the appropriate cable.
5. By default, the input source of the projector is set to VGA. Change the input source of the projector if necessary.
6. If you have multiple sources connected to the projector, press the **Source** button on the remote control or control panel to select the desired source.

Turning Your Projector Off

1. Press the **Power** button. Follow the instruction displayed on screen to properly turn off the projector.

NOTE: The "Press Power Button to Turn off Projector" message will appear on the screen. The message disappears after 5 seconds or you can press the Menu button to clear it.

2. Press the **Power** button again. The cooling fans continue to operate for 120 seconds.
3. To power off the projector quickly, press the **Power** button and hold for 1 second while the projector's cooling fans are still running.

NOTE: Before you turn on the projector again, wait for 60 seconds to allow the internal temperature to stabilize.

4. Disconnect the power cord and AC adapter from the electrical outlet and the projector.

© 3M 2012. All Rights Reserved.

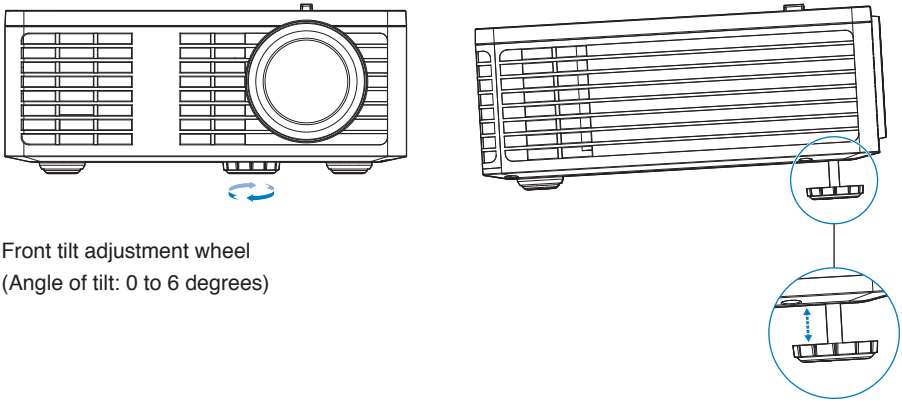
Adjusting the Projected Image

Raising the Projector Height

Raise the projector to the desired display angle, and use the front tilt adjustment wheel to fine-tune the display angle.

Lowering the Projector Height

Lower the projector, and use the front tilt adjustment wheel to fine-tune the display angle.

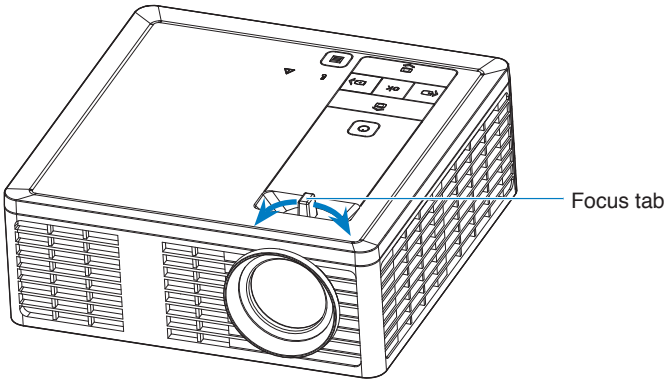


Front tilt adjustment wheel
(Angle of tilt: 0 to 6 degrees)

Adjusting the Projector Focus

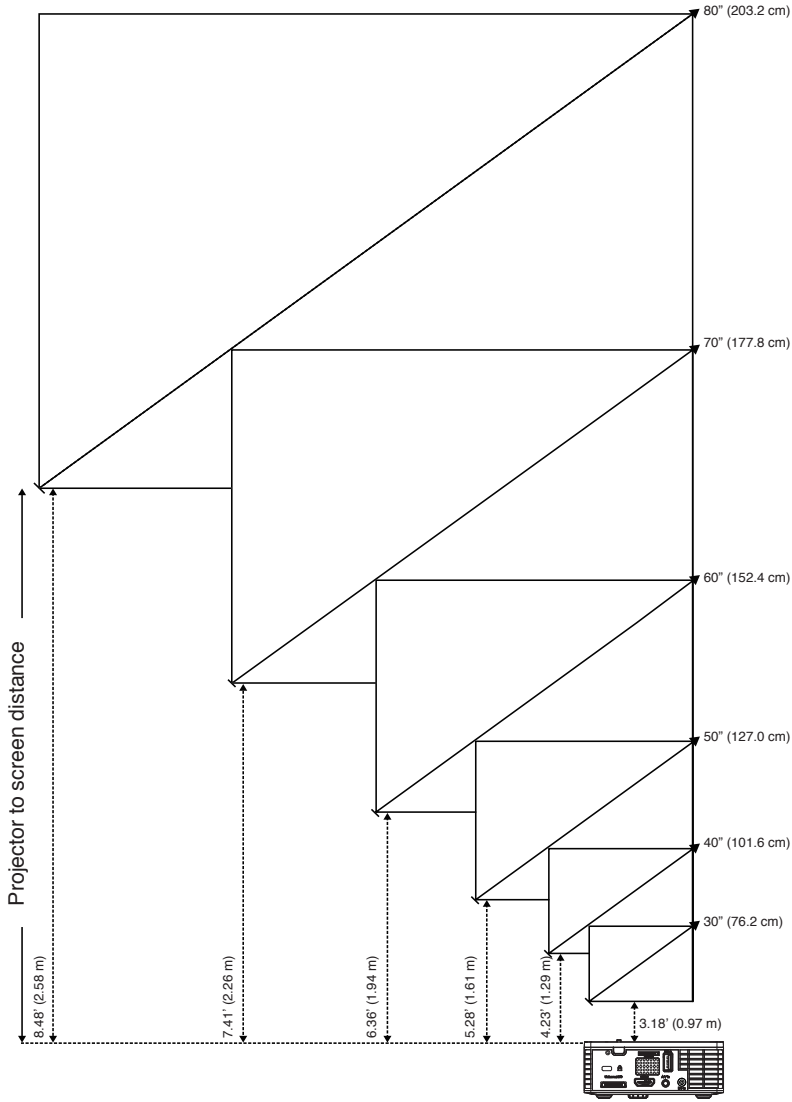
IMPORTANT NOTE: To avoid damaging the projector, ensure that the adjustment wheels are fully retracted before moving the projector or placing the projector in its carrying case.

Rotate the focus tab until the image is clear. The projector focuses at distances ranging between 3.18 ft to 8.48 ft (97 cm to 258 cm).



© 3M 2012. All Rights Reserved.

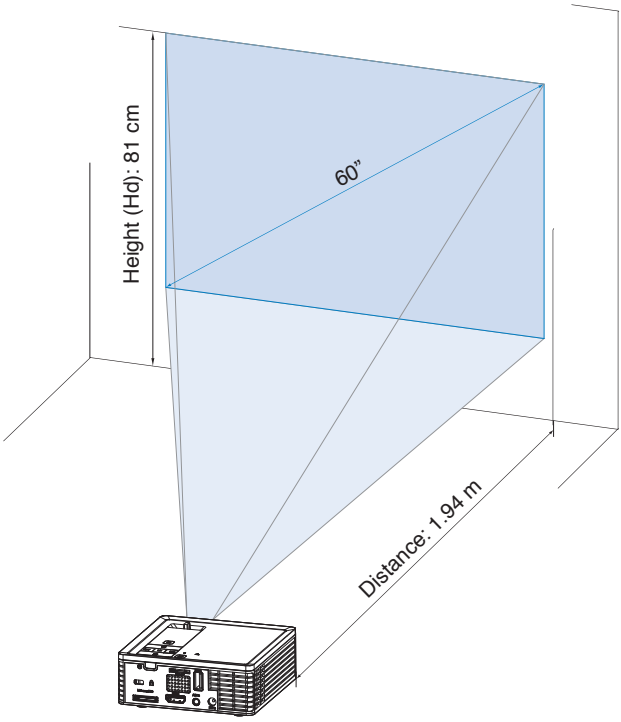
Adjusting Projection Image Size



© 3M 2012. All Rights Reserved.

Screen (Diagonal)	Screen Size		Hd	Distance
30” (76.2 cm)	25.59” x 15.75”	65 cm x 40 cm	15.75” (40 cm)	3.18’ (0.97 m)
40” (101.6 cm)	33.86” x 21.26”	86 cm x 54 cm	21.26” (54 cm)	4.23’ (1.29 m)
50” (127.0 cm)	42.13” x 26.38”	107 cm x 67 cm	26.38” (67 cm)	5.28’ (1.61 m)
60” (152.4 cm)	50.79” x 31.89”	129 cm x 81 cm	31.89” (81 cm)	6.36’ (1.94 m)
70” (177.8 cm)	59.45” x 37.01”	151 cm x 94 cm	37.01” (94 cm)	7.41’ (2.26 m)
80” (203.2 cm)	67.72” x 42.52”	172 cm x 108 cm	42.52” (108 cm)	8.48’ (2.58 m)

NOTE: This graph is for user reference only.



© 3M 2012. All Rights Reserved.

User Controls

Using the On-Screen Display

1. The projector has a multi-language On-Screen Display (OSD) Menu that can be displayed with or without an input source.
2. Press the **Menu** button on the control panel or the remote control to enter the Main Menu.
3. To select an option, press the ▲ or ▼ buttons on your projector's control panel or remote control.
4. Use the ◄ or ► buttons on the control panel or remote control to adjust the settings.
5. To exit the OSD, press the **Menu** button directly on the control panel or the remote control.

Main Menu

Language

Allows you to set the language for the OSD. Press ◄ and ► to select different languages and press Enter to change the language.

© 3M 2012. All Rights Reserved.

Source

The Source menu allows you to select your projector's input source.

- **Auto**

  If you select and press Enter to activate, the Auto option will automatically find the next available input source.

- **VGA**

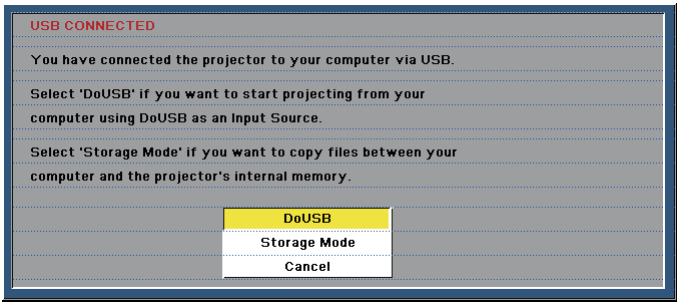
  Press Enter to detect a VGA signal.

- **DoUSB**

  Allows you to display the computer/laptop screen to your projector via the USB cable.

NOTE: When you connect the projector and computer via the USB cable, a USB Connected message will pop up and allow you to select input sources as DoUSB or Storage.

- The USB Connected Screen shown below appears:



- Storage Mode: Allows you to execute copy, delete, move, and more instructions from your computer (only supports microSD and internal memory).

- **HDMI**

  Press Enter to detect a HDMI signal.

© 3M 2012. All Rights Reserved.

- **A/V In**

  Allows you to display the Audio/Video source to your projector via the A/V cable.
- **USB**

  Allows you to playback the photo, Audio, or Video files from your USB flash disk.
- **MicroSD**

  Allows you to playback the photo, Audio, or Video files from your microSD card.
- **Internal Memory**

  Allows you to playback the photo, Audio, or Video files from internal memory of the projector.

Video Mode

The Video Mode menu allows you to optimize the display image. The options are: **Bright**, **Movie**, **PC**, **User** (set your preferred settings) and **Presentation** mode.

Audio

The Audio menu allows you adjust the volume setting of your projector.

Press ◄ to decrease the volume and ► to increase the volume.

© 3M 2012. All Rights Reserved.

Auto Adjust

Auto Adjust automatically adjusts the projector's **Horizontal**, **Vertical**, **Frequency**, and **Tracking** in PC mode.

OSD Reset

Select and press Enter to reset all settings to its factory default.

The below warning message appears:

Reset items include both computer sources and Video source settings.

Advanced

See “Advanced Menu” on pages 28~32.

SN

Display the projector’s serial number.

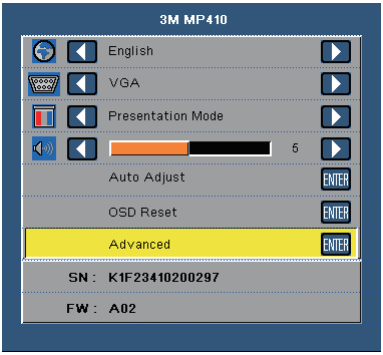
FW Version

Display the current projector’s firmware version.

© 3M 2012. All Rights Reserved.

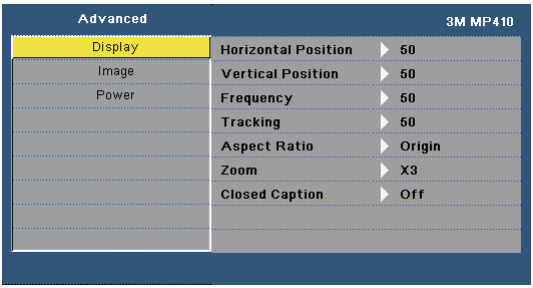
Advanced Menu

The Advanced menu allows you to change settings for **Display**, **Image**, and **Power**.



Display (In PC Mode)

Select and press Enter to activate display settings. The display menu provides the following options:



- **Horizontal Position**

  Press ▲ to move the image right and ▼ to move the image left.

- **Vertical Position**

  Press ▲ to move the image up and ▼ to move the image down.

- **Frequency**

  Allows you to change the display data clock frequency to match the frequency of your computer's graphics card. If you see a vertical flickering wave, use the Frequency control to minimize the bars. This is a coarse adjustment.

- **Tracking**

  Synchronize the phase of the display signal with the graphic card. If you experience an unstable or flickering image, use the Tracking to correct it. This is a fine adjustment.

© 3M 2012. All Rights Reserved.

- **Aspect Ratio**

  Allows you to select the aspect ratio to adjust how the image appears. Options are: **Origin**, **16:9** and **4:3**.

  - Origin: Select **Origin** to maintain the aspect ratio of the image projector according to the input source.
  - 16:9: The input source scales to fit the width of the screen to project a 16:9 screen image.
  - 4:3: The input source scales to fit the screen and projects a 4:3 image.

- **Zoom**

  Press ▲ or ▼ to zoom and view the image.

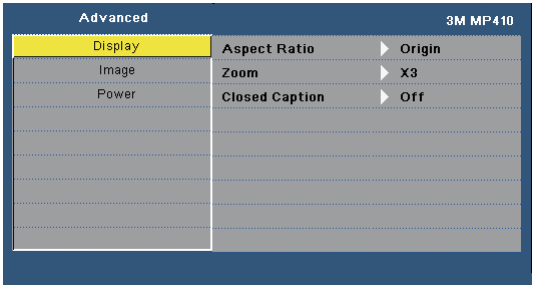
- **Closed Caption**

  Select **On** to enable close caption and activate the closed caption menu. Select appropriate closed caption options: **CC1**, **CC2**, **CC3**, and **CC4**.

NOTE: Closed caption option is available for NTSC only.

Display (In Video Mode)

Select and press Enter to activate display settings. The display menu provides the following options:



- **Aspect Ratio**

  Allows you to select the aspect ratio to adjust how the image appears. Options are: **Origin**, **16:9** and **4:3**.

  - Origin: Select **Origin** to maintain the aspect ratio of the image projector according to the input source.
  - 16:9: The input source scales to fit the width of the screen to project a 16:9 screen image.
  - 4:3: The input source scales to fit the screen and projects a 4:3 image.

- **Zoom**

  Press ▲ or ▼ to zoom and view the image.

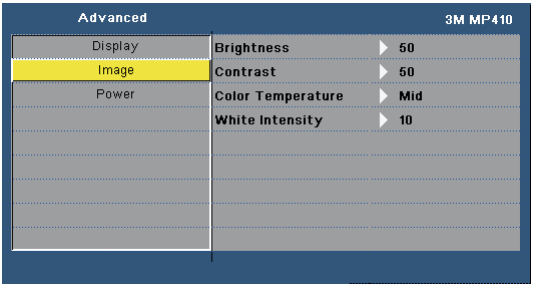
- **Closed Caption**

  Select **On** to enable close caption and activate the closed caption menu. Select appropriate closed caption options: **CC1**, **CC2**, **CC3**, and **CC4**.

© 3M 2012. All Rights Reserved.

Image (In PC Mode)

Select and press Enter to activate image settings. The image menu provides the following options:



- **Brightness**

  Press ▲ and ▼ to adjust the brightness of the image.

- **Contrast**

  Press ▲ and ▼ to adjust the display contrast.

- **Color Temperature**

  Allows you to adjust the color temperature. The screen appears cooler at higher color temperatures and warmer at lower color temperatures.

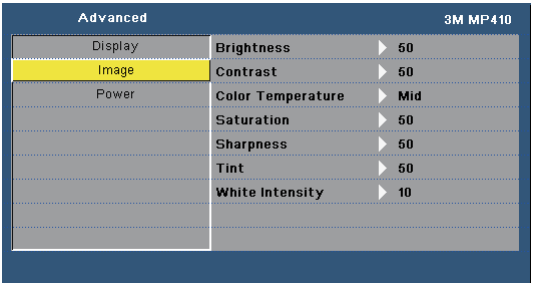
- **White Intensity**

  Press Enter and use ▲ and ▼ to display white intensity.

NOTE: If you adjust the settings for Brightness, Contrast, Color Temperature, and White Intensity the projector automatically switches to User mode.

Image (In Video Mode)

Select and press Enter to activate image settings. The image menu provides the following options:



- **Brightness**

  Press ▲ and ▼ to adjust the brightness of the image.

© 3M 2012. All Rights Reserved.

- **Contrast**

  Press ▲ and ▼ to adjust the display contrast.

- **Color Temperature**

  Allows you to adjust the color temperature. The screen appears cooler at higher color temperatures and warmer at lower color temperatures.

- **Saturation**

  Allows you to adjust the video source from black and white to fully saturated color. Press ▲ to increase the amount of color in the image and ▼ to decrease the amount of color in the image.

- **Sharpness**

  Press ▲ to increase the sharpness and ▼ to decrease the sharpness.

- **Tint**

  Press ▲ to increase the amount of green in the image and ▼ to decrease the amount of green in the image (available for NTSC only).

- **White Intensity**

  Press Enter and use ▲ and ▼ to display white intensity.

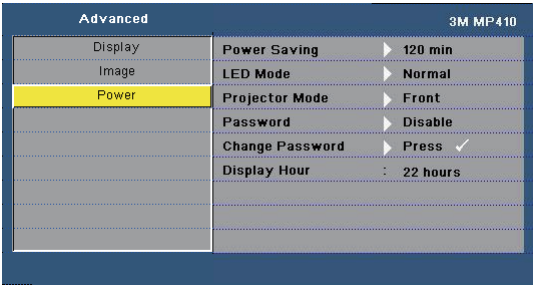
NOTE:

1. *If you adjust the settings for Brightness, Contrast, Color Temperature, Saturation, Sharpness, Tint, and White Intensity the projector automatically switches to User mode.*
2. *Saturation, Sharpness, and Tint are only available when input source is from A/V in.*

© 3M 2012. All Rights Reserved.

Power

Select and press Enter to activate power settings. The power menu provides the following options:



- **Power Saving**

  Select **Off** to disable Power Saving mode. By default, the projector is set to enter power saving mode after 120 minutes of no activity. A warning message appears on screen showing a 60 seconds countdown before switching to power saving mode. Press any button during the countdown period to stop the power-saving mode.
  You can also set a different delay period to enter power saving mode. The delay period is the time you want the projector to wait without an input signal. Power saving can be set to **30**, **60**, **90**, or **120** minutes. If an input signal is not detected during the delay period, the projector turns off. To turn on the projector, press the **Power** button.

- **LED Mode**

  Allows you to select between **Normal** or **ECO** mode. Normal mode operates at full power level. ECO mode operates at a lower power level which may provide longer LED life, quieter operation, and dimmer luminance output on the screen.

- **Projector Mode**

  Allows you to select the projector mode, depending upon how the projector is mounted.

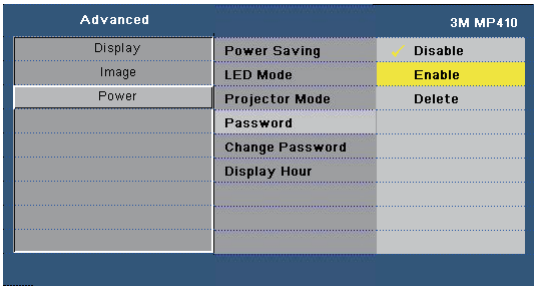
  - Front: This is the default option.
  - Rear: The projector reverses the image so that you can project from behind a translucent screen.
  - Front Ceiling: The projector turns the image upside down for ceiling-mounted projection.
  - Rear Ceiling: The projector reverses and turns the image upside down. You can project from behind a translucent screen with a ceiling-mounted projection.

© 3M 2012. All Rights Reserved.

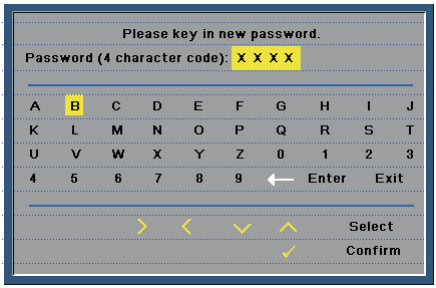
Password

When password protect is enabled, a password protect screen requesting you to enter a password will be displayed when the power plug is inserted into the electrical outlet and the power for the projector is first turned on. By default, this function is disabled. You can enable this feature by selecting **Enabled**. If the password has been set before, key in the password first and select the function.
This password security feature will be activated the next time you turn on the projector. If you enable this feature, you will be asked to enter the projector's password after you turn on the projector.

1. First time password input request:
   a. Go to **Power** menu, press Enter and then select **Password** to enable the password settings.



   b. Enabling the Password function will pop up a change screen. Key in a 4-digit number from the screen and press Enter.



   c. To confirm, enter the password again.
   d. If the password verification is successful, you may resume with accessing the projector's functions and its utilities.
2. If you have entered an incorrect password, you will be given another two chances. After three invalid attempts, the projector will automatically turn off.

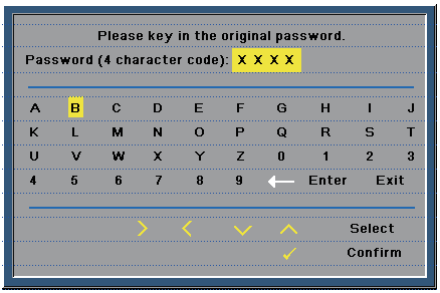
NOTE: If you forget your password, contact 3M™ or email meetings@mmm.com.

3. To disable the password function, select the **Disable** option to close the function.
4. To delete the password, select the **Delete** option.

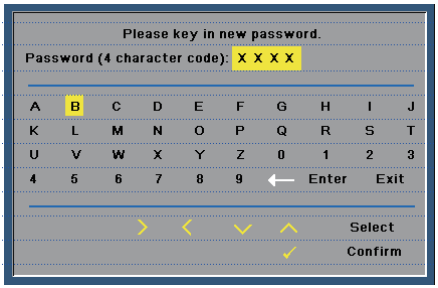
© 3M 2012. All Rights Reserved.

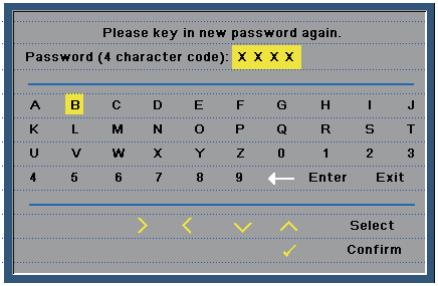
- **Change Pasword**

1. Key in the original password.



2. Then, enter the new password and confirm the new password again.





- **Display Hour**

  Display the projection time.

© 3M 2012. All Rights Reserved.

Multi-Media Introduction

Multi-media format supported:

Photo Format

Image Type (Ext Name)	Sub Type	Encode Type	Max Pixels	Max Size
Jpeg / Jpg	Baseline	YUV420	No Limitation	2GB
		YUV422		
		YUV440		
		YUV444		
	Progressive	YUV420	64x panel resolution	2GB
		YUV422		
		YUV440		
		YUV444		
BMP			64x panel resolution	

Video Format

File Format	Video Format	Profile & Level	Max Res	Max Bit Rate (bps)	Audio Format
MOV, MP4, AVI, MKV, DIVX	H264	less than 4 reference frames	1080P	20Mbps	AC3, DTS, MP1, MP2, MP3, PCM, ADPCM
MOV, MP4	MPEG4		1080P	20Mbps	AMR, PCM, ADPCM
WMV	WMV3	Baseline, Main	1080P	20Mbps	WMA2, WMA3

Audio Format

Music Type (Ext Name)	Sample Rate (KHz)	Bit Rate (Kbps)
MP1	8-48	8-320
MP2	8-48	8-320
MP3	8-48	8-320
WMA	22-48	5-320

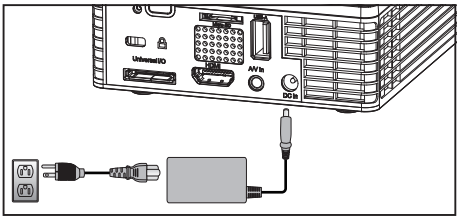
© 3M 2012. All Rights Reserved.

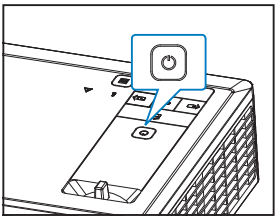
How to set-up File Type for Multi-Media with USB

NOTE: A USB flash disk must be plugged into the projector if you want to use the multimedia USB function.

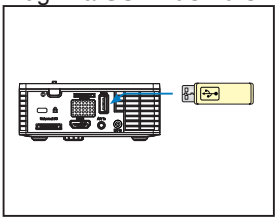
Follow these steps to playback the Photo, Video, or Music files on your projector:

1. Connect the power cable with AC adapter and turn on the projector by pressing the **Power** button.





2. Plug in a **USB flash disk** to your projector.



3. Access the **Source** menu, select the **USB** option and press the Enter button. The image input source will automatically switch to Multimedia Menu when **USB** option is selected in this step.

4. Select the multi-media files: **Photo**, **Video**, or **Music**, and then press the Enter to start playing. Or select the **SETUP** option to change settings for **Photo**, **Video**, or **Music**.

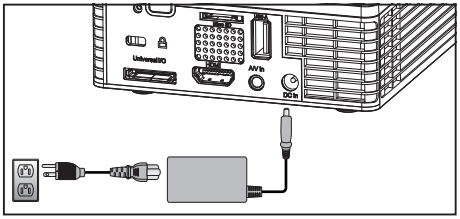
© 3M 2012. All Rights Reserved.

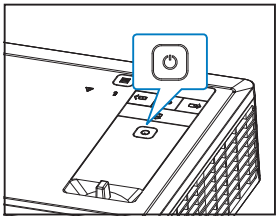
How to set-up File Type for Multi-Media with MicroSD

NOTE: A microSD card must be plugged into the projector if you want to use the multimedia microSD function.

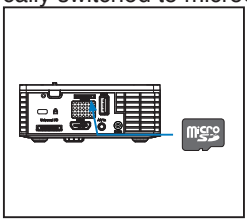
Follow these steps to playback the Photo, Video, or Music files on your projector:

1. Connect the power cable with AC adapter and turn on the projector by pressing the **Power** button.





2. Plug in a **MicroSD card** to your projector. The image input source will be automatically switched to microSD screen when you plug in a microSD card.



3. Access the **Source** menu, select the **MicroSD** option and press the Enter button. The image input source will automatically switch to Multimedia Menu when **MicroSD** option is selected in this step.

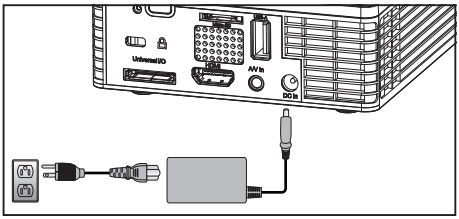
4. Select the multi-media files: **Photo**, **Video**, or **Music**, and then press the Enter to start playing. Or select the **SETUP** option to change settings for **Photo**, **Video**, or **Music**.

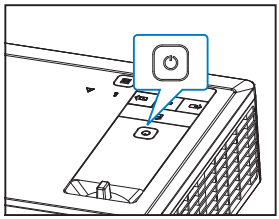
© 3M 2012. All Rights Reserved.

How to set-up File Type for Multi-Media with Internal Memory

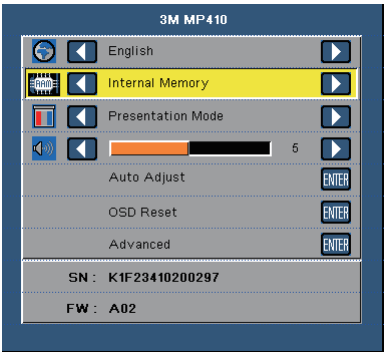
Follow these steps to playback the Photo, Video, or Music files on your projector:

1. Connect the power cable with AC adapter and turn on the projector by pressing the **Power** button.





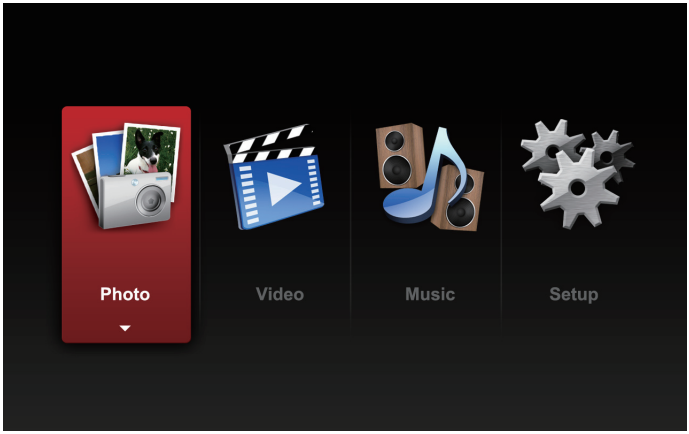
2. Access the **Source** menu, select the **Internal Memory** option and press the Enter button. The image input source will automatically switch to Multimedia Menu when **Internal Memory** option is selected in this step.



3. Select the multi-media files: **Photo**, **Video**, or **Music**, and then press the Enter to start playing. Or select the **SETUP** option to change settings for **Photo**, **Video**, or **Music**.

© 3M 2012. All Rights Reserved.

Multi-Media Main Menu



Multi-Media SETUP for USB, MicroSD, and Internal Memory

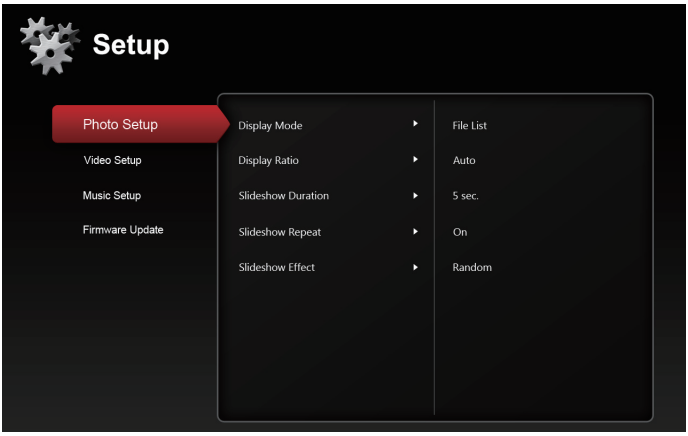
The multi-media setup menu allows you to change settings for Photo, Video, and Music.

NOTE: Multi-media setup menu and set are the same for the USB, MicroSD, and Internal Memory.

© 3M 2012. All Rights Reserved.

Photo Setup

Select and press Enter to activate photo setup menu. The photo setup menu provides the following options:



- **Display Mode**

  Press ▲ or ▼ to select the display mode of the photo on the screen. Options are: **File List**, **Browse Mode**, **Thumbnail**, and **Slideshow**.

- **Display Ratio**

  Press ▲ or ▼ to select the display ratio of the photo as **Auto** (original ratio) or **Full** (full screen).

- **Slideshow Duration**

  Press ▲ or ▼ to select the slideshow duration. The image will automatically switch to the next photo after the time out. Options are: **5 sec**, **15 sec**, **30 sec**, **1 min**, **5 min**, and **15 min**.

- **Slideshow Repeat**

  Select **On** to repeat slideshow always. Or select **Off** to stop slideshow when it goes to the last page.

- **Slideshow Effect**

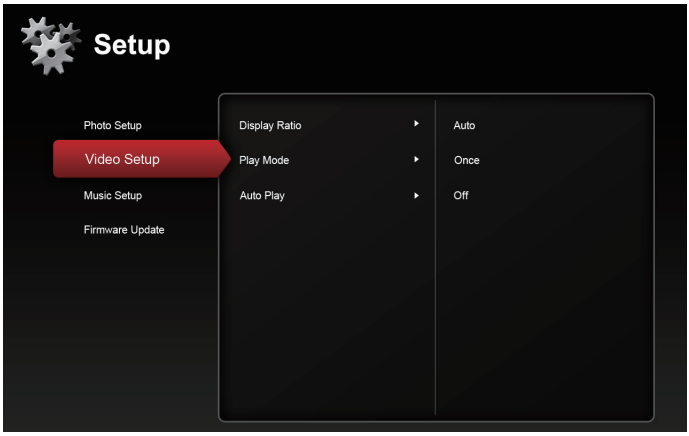
  Press ▲ or ▼ to select what slideshow effect you want. Options are: **Random**, **Rect.**, **Off**, **Snake**, **Partition**, **Erase**, **Blinds**, **Lines**, **GridCross**, **Cross**, and **Spiral**.

NOTE: Slideshow Duration, Slideshow Repeat, and Slideshow Effect function only support Slideshow mode.

© 3M 2012. All Rights Reserved.

Video Setup

Select and press Enter to activate video setup menu. The video setup menu provides the following options:



- **Display Ratio**

  Press ▲ or ▼ to select the display ratio of the Video.

  - Auto: Keep original aspect ratio.
  - Full: Full screen.

- **Play Mode**

  Press ▲ or ▼ to select the video play mode. Options are: **Once**, **Repeat Once**, **Repeat**, and **Random**.

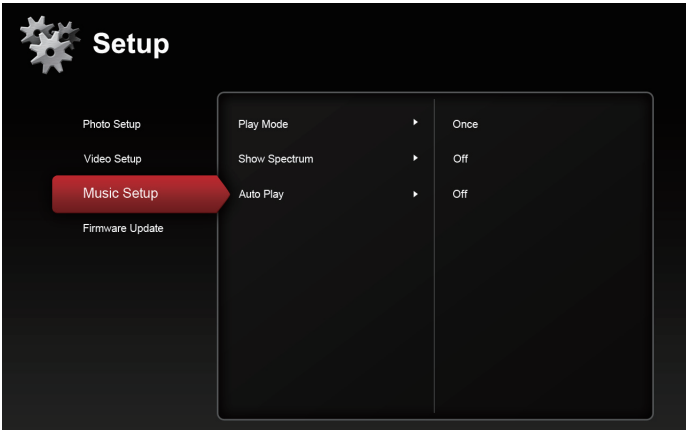
- **Auto Play**

  Select **On** to play the video automatically while entering the video list.

© 3M 2012. All Rights Reserved.

Music Setup

Select and press Enter to activate music setup menu. The music setup menu provides the following options:



- **Play Mode**

  Press ▲ or ▼ to select the video play mode. Options are: **Once**, **Repeat Once**, **Repeat**, and **Random**.

- **Show Spectrum**

  Select **On** to show the spectrum plot while music is playing.

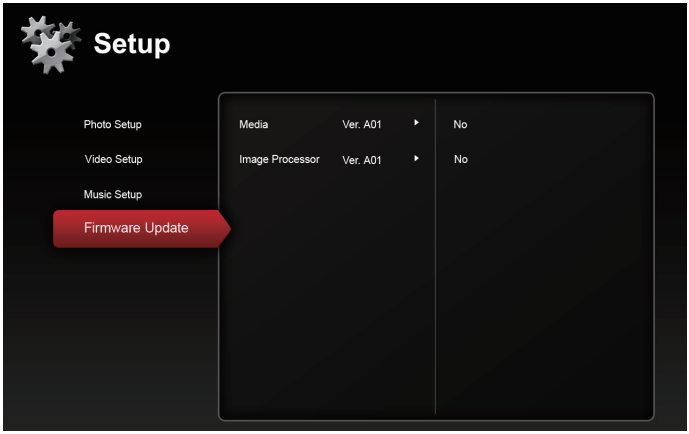
- **Auto Play**

  Select **On** to play the music automatically while entering the music list.

© 3M 2012. All Rights Reserved.

Firmware Update

Select and press Enter to activate firmware update menu. The firmware update menu provides the following options:



- **Media**

  Select **Yes** to enter firmware update screen, and then select **Confirm** option to update your media firmware by microSD card.

- **Image Processor**

  Select **Yes** to enter firmware update screen, and then select **Confirm** option to update your Video decoder firmware by microSD card.

NOTE: Media and Image Processor firmware update only supports microSD interface, firmware files must be stored in the microSD card.

© 3M 2012. All Rights Reserved.

Appendices

Troubleshooting

If you experience problems with your projector, see the following troubleshooting tips. If the problem persists, contact your local reseller or service center.

Problem	Possible Solution
No image appears on the screen	• Ensure that the projector is turned on. • Ensure that you have chosen the correct input source on the OSD **Source** menu. • Ensure the external graphics port is enabled. If images are not displayed properly, please upgrade the video driver of your computer. • Ensure that all the cables are securely connected. • Ensure that the pins of the connectors are not bent or broken.
Partial, scrolling or incorrectly displayed image	• Press the **Auto Adjust** button on the control panel. - If you are using a portable computer, set the resolution of the computer to WXGA (1280 x 800). • If you experience difficulty in changing resolutions, or if your monitor freezes, restart all the equipment and the projector. • If images are not displayed properly, please upgrade the video driver of your computer.
The screen does not display your presentation	• If you are using a portable computer, press the toggle output settings. Example: [Fn]+[F4].
Image is unstable or flickering	• Adjust the tracking in the OSD **Display** settings of the **Advanced** menu (in PC Mode only).
Image has vertical flickering bar	• Adjust the frequency in the OSD **Display** settings of the **Advanced** menu (in PC Mode only).
Image is out of focus	1. Adjust the focus ring on the projector lens. 2. Ensure that the projection screen is within the required distance from the projector (3.18 ft [97 cm] to 8.48 ft [258 cm]).

© 3M 2012. All Rights Reserved.

Problem	Possible Solution
The image is stretched when displaying a 16:9 DVD	• The projector automatically detects the input signal format. It will maintain the aspect ratio of the projected image according to input signal format with an Original setting. • If the image is still stretched, adjust the aspect ratio in the **Display** settings of the **Advanced** menu in the OSD.
Error LED is blinking amber	• A projector fan has failed and the projector will automatically shut down.
TEMP LED is solid amber	• The projector has overheated. The display automatically shuts down. Turn the display on again after the projector cools down. If the problem persists, contact 3M™.
TEMP LED is blinking amber	• If the projector fan fails, the projector will automatically shut down. Clear the projector mode by pressing and holding the **Power** button for 10 seconds. Please wait for about 5 minutes and try to power up again. If the problem persists, contact 3M™.
The remote control is not operating smoothly or works only within a limited range	• The battery may be low. Check if the LED indication from the remote is too dim. If so, replace with a new CR2025 battery.

© 3M 2012. All Rights Reserved.

Guiding Signals

Projector Status	Description	Power (Blue/Amber)	TEMP (Amber)	ERROR (Amber)
Standby mode	Projector in Standby mode. Ready to power on.	BLUE Flashing	OFF	OFF
Warming up mode	Projector takes some time to warm up and power on.	BLUE	OFF	OFF
LED on	Projector in Normal mode, ready to display an image. *NOTE: The OSD menu is not accessed.*	BLUE	OFF	OFF
Cooling mode	Projector is cooling to shutdown.	BLUE	OFF	OFF
Projector overheated	Air vents might be blocked or ambient temperature may be above 35 ºC. The projector automatically shuts down. Ensure that the air vents are not blocked and that the ambient temperature is within operational range. If the problem persists, contact us.	OFF	AMBER	OFF
Fan breakdown	One of the fans has failed. The projector automatically shuts down. If the problem persists, contact us.	OFF	AMBER Flashing	OFF
LED failure	LED shutdown.	OFF	OFF	AMBER

© 3M 2012. All Rights Reserved.

Compatibility Modes (Analog/Digital)

Resolution	Refresh Rate (Hz)	Hsync Frequency (KHz)	Pixel Clock (MHz)
640 x 350	70.087	31.469	25.175
720 x 400	70.087	31.469	28.322
720 x 400	70.087	31.469	28.322
640 x 480	59.940	31.469	25.175
640 x 480	75.000	37.500	31.500
640 x 480	85.008	43.269	36.000
800 x 600	60.317	37.879	40.000
800 x 600	75.000	46.875	49.500
800 x 600	85.061	53.674	56.250
1024 x 768	60.004	48.363	65.000
1024 x 768	75.029	60.023	78.750
1024 x 768	84.997	68.677	94.500
1280 x 720	59.855	44.772	74.500
1280 x 1024	60.020	63.981	108.000
1280 x 1024	75.025	79.976	135.000
1280 x 768	59.87	47.776	79.500
1360 x 768	60.015	47.712	85.500
1680 x 1050	59.954	65.290	146.250
1440 x 900	59.887	55.935	106.500
1920 x 1080	60.000	67.500	148.500
1280 x 800	59.810	49.702	83.500
1280 x 720	59.855	44.772	74.500
720 x 480 p60	59.940	31.469	27.000
720 x 576 p50	50.000	31.250	27.000
1280 x 720 p60	60.000	45.000	74.250
1280 x 720 p50	50.000	37.500	74.250
1920 x 1080 i60	60.000	33.750	74.250
1920 x 1080 i50	50.000	28.125	74.250
1280 x 768 -R60	59.995	47.396	68.250
1280 X 768	74.893	60.289	102.250
1280 X 768	84.837	68.633	117.500
1280 x 800 -R	59.910	49.306	71.000
1280 x 800	74.934	62.795	106.500
1280 x 800	84.880	71.554	122.500
1440 x 900	74.984	70.635	136.750

© 3M 2012. All Rights Reserved.

Specifications

Item	Specification
Light Valve	0.45” WXGA S450 DMD, DarkChip3™
Brightness	300 ANSI lumens (Typical)
Contrast Ratio	10000:1 Typical (Full On/Full Off)
Uniformity	80% Typical (Japan Standard - JBMA)
Number of Pixels	1280 x 800 (WXGA)
Internal Flash	1 GB Memory (Max.)
Displayable Color	1.073 billion colors
Projection Lens	• F-Stop: F/ 2.0 • f=14.95 mm • Fixed Lens • Throw ratio = 1.5 wide and tele • Offset ratio: 100%
Projection Screen Size	30~80 inches (Diagonal)
Projection Distance	3.18~8.48 ft (97 cm ~ 258 cm)
Video Compatibility	• Composite Video: NTSC (M, 3.58, 4.43), PAL (B, D, G, H, I, M, N, 4.43), SECAM (B, D, G, K, K1, L, 4.25, 4.4) • Component Video input via VGA: 1080i (50/60 Hz), 720p (50/60 Hz), 576i/p, 480i/p • HDMI input: 1080p, 720p, 576i/p, 480i/p
Power Supply	Universal AC 100-240 50-60 Hz with 65 W power adapter
Power Consumption	• Normal mode: 55 W ± 10% @ 110 Vac • Eco mode: 45 W ± 10% @ 110 Vac • Standby mode < 0.5 W
Audio	1 speaker x 1 watt RMS
Noise Level	• 36 dB(A) in Bright mode • 34 dB(A) in Presentation mode • 32 dB(A) in Eco mode
Weight	< 1.0 lbs
Dimensions (W x H x D)	106.3 x 43.16 x 105 mm

© 3M 2012. All Rights Reserved.

Item	Specification
Environmental	• Operating temperature: 5 ºC to 35 ºC (41 ºF to 95 ºF) Humidity: 80% maximum • Storage temperature: 0 ºC to 60 ºC (32 ºF to 140 ºF) Humidity: 80% maximum
I/O Connectors	• Power: One DC power jack • VGA input: One 24-pin universal connector (Black) for analog RGB input signals and supporting Audio output. • HDMI input: One HDMI connector for supporting HDMI 1.3. HDCP compliant. • AV input: One 3.5 mm connector for supporting Audio/ Video input. • USB (type A) port: One USB connector for supporting USB display, multimedia playback (Video/Audio/Photo), and USB Memory storage access (USB flash drive/internal memory). • MicroSD card slot: One microSD connector for supporting multimedia playback (Video/Audio/Photo) and supporting media and image processor firmware upgrade.
Light Source	Mercury-free LED (up to 20000 hours in Normal mode)

NOTE: The LED life rating for any projector is a measure of brightness degradation only, and is not a specification for the time it takes a LED to fail and cease light output. LED life is defined as the time it takes for more than 50 percent of a LED sample population to have brightness decrease by approximately 50 percent of the rated lumens for the specified LED. The LED life rating is not guaranteed in any way. The actual operating life span of a projector LED will vary according to operating conditions and usage patterns. Usage of a projector in stressful conditions which may include dusty environments, under high temperatures, many hours per day, and abrupt powering-off will most likely result in a LED's shortened operating life span or possible LED failure.

© 3M 2012. All Rights Reserved.

Mobile Interactive Solutions
3M Austin Center
6801 River Place Blvd.
Austin, TX 78726-9000
866-631-1656
www.3Mmobileprojector.com
e-mail: meetings@mmm.com

3M is a trademark of 3M Company. All other trade names referenced are the service marks, trademarks or registered trademarks of their respective companies.

© 2012 3M. All Rights Reserved.
Made in China
78-6971-1613-1 Rev. A